

Appl. No. 10/708,047  
Amdt. dated July 12, 2006  
Reply to Office action of April 24, 2006

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

5   **Listing of Claims:**

1. (Previously Presented) A light-emitting device with compound substrate comprising:

a compound substrate comprising a high thermal conductive layer and a substrate disposed around the high thermal conductive layer;

10   a transparent adhesive layer formed on the compound substrate; and a light-emitting stack layer formed on the transparent adhesive layer.

2. (Cancelled)

15   3. (Previously Presented) The light-emitting device of claim 1 wherein the transparent adhesive layer is a conductive transparent adhesive layer.

4. (Previously Presented) The light-emitting device of claim 1 wherein the transparent adhesive layer is an insulating transparent adhesive layer.

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5-7. (Cancelled)

25   8. (Previously Presented) The light-emitting device of claim 1 further comprising a first reaction layer between the compound substrate and the transparent adhesive layer.

9. (Previously Presented) The light-emitting device of claim 1 further

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comprising a second reaction layer between the transparent adhesive layer and the light-emitting stack layer.

10. (Original) The light-emitting device of claim 8 further comprising a metal reflecting layer between the compound substrate and the first reaction layer.

11. (Original) The light-emitting device of claim 9 further comprising a metal reflecting layer between the second reaction layer and the light-emitting stack layer.

12. (Original) The light-emitting device of claim 11 further comprising a transparent conductive layer between the metal reflecting layer and the light-emitting stack layer.

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13-14. (Cancelled)

15. (Original) The light-emitting device of claim 1 further comprising a connection layer between the high thermal conductive layer and the substrate.

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25 16. (Previously Presented) The light-emitting device of claim 1 wherein the high thermal conductive layer comprises at least one material selected from a material group consisting of Cu, Al, Au, Ag, W, and alloys of these metals.

17. (Previously Presented) The light-emitting device of claim 15 wherein the connection layer comprises at least one material selected from a

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material group consisting of indium tin oxide, GeAu, BeAu, Au, SiNx, SiO<sub>2</sub>, Cu, Ti, and Pd.

18. (Cancelled)

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19. (Previously Presented) The light-emitting device of claim 1 wherein the transparent adhesive layer comprises at least one material selected from a material group consisting of polyimide (PI), benzocyclobutane (BCB), and perfluorocyclobutene (PFCB).

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20. (Previously Presented) The light-emitting device of claim 3 wherein the conductive transparent adhesive layer comprises at least one material selected from a material group consisting of intrinsically conducting polymer and polymer doped with a conductive material.

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21. (Previously Presented) The light-emitting device of claim 20 wherein the conductive material comprises at least one material selected from a material group consisting of indium tin oxide, cadmium tin oxide, antimony tin oxide, zinc oxide, zinc tin oxide, Au, and Ni/Au.

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22-24. (Cancelled)

25. (Previously Presented) The light-emitting device of claim 8 wherein the first reaction layer comprises at least one material selected from a material group consisting of SiNx, Ti, and Cr.

26. (Previously Presented) The light-emitting device of claim 9 wherein the second reaction layer comprises at least one material selected from a

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material group consisting of SiNx, Ti, and Cr.

27. (Previously Presented) A light-emitting device with compound substrate comprising:

5 a compound substrate comprising a high thermal conductive layer and a substrate disposed around the high thermal conductive layer; an opaque adhesive layer formed on the compound substrate; and a light-emitting stack layer formed on the opaque adhesive layer.

10 28. (Previously Presented) The light-emitting device of claim 27 wherein the opaque adhesive layer is a conductive opaque adhesive layer.

29. (Previously Presented) The light-emitting device of claim 27 wherein the opaque adhesive layer is an insulating opaque adhesive layer.

15 30. (Previously Presented) The light-emitting device of claim 27 further comprising a first reaction layer between the compound substrate and the opaque adhesive layer.

20 31. (Previously Presented) The light-emitting device of claim 30 further comprising a second reaction layer between the opaque adhesive layer and the light-emitting stack layer.

25 32. (Previously Presented) The light-emitting device of claim 31 further comprising a metal reflecting layer between the second reaction layer and the light-emitting stack layer.

33. (Previously Presented) The light-emitting device of claim 32 further

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comprising a transparent conductive layer between the metal reflecting layer and the light-emitting stack layer.

34. (Previously Presented) The light-emitting device of claim 27 further comprising a connection layer between the high thermal conductive layer and the substrate.

35. (Previously Presented) The light-emitting device of claim 27 wherein the high thermal conductive layer comprises at least one material selected from a material group consisting of Cu, Al, Au, Ag, W, and alloys of these metals.

36. (Previously Presented) The light-emitting device of claim 34 wherein the connection layer comprises at least one material selected from a material group consisting of indium tin oxide, GeAu, BeAu, Au, SiNx, SiO<sub>2</sub>, Cu, Ti, and Pd.

37. (Previously Presented) The light-emitting device of claim 30 wherein the first reaction layer comprises at least one material selected from a material group consisting of SiNx, Ti, and Cr.

38. (Previously Presented) The light-emitting device of claim 31 wherein the second reaction layer comprises at least one material selected from a material group consisting of SiNx, Ti, and Cr.

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39. (Currently Amended) A light-emitting device with compound substrate comprising:  
a compound substrate comprising a high thermal conductive layer and

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a substrate disposed around the high thermal conductive layer;  
a metal adhesive-layer formed on the compound substrate; and  
a light-emitting stack layer formed on the metal adhesive-layer[.];  
wherein the metal layer is formed to enhance adhesion between the  
5 compound substrate and the light-emitting stack layer.

40. (Currently amended) The light-emitting device of claim 39 further comprising a metal reflecting layer between the metal adhesive-layer and the light-emitting stack layer.

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41. (Previously Presented) The light-emitting device of claim 40 further comprising a transparent conductive layer between the metal reflecting layer and the light-emitting stack layer.

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42. (Previously Presented) The light-emitting device of claim 39 further comprising a connection layer between the high thermal conductive layer and the substrate.

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43. (Previously Presented) The light-emitting device of claim 39 wherein the high thermal conductive layer comprises at least one material selected from a material group consisting of Cu, Al, Au, Ag, W, and alloys of these metals.

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44. (Previously Presented) The light-emitting device of claim 42 wherein the connection layer comprises at least one material selected from a material group consisting of indium tin oxide, GeAu, BeAu, Au, SiNx, SiO<sub>2</sub>, Cu, Ti, and Pd.

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**45. (Currently Amended) The light-emitting device of claim 39 wherein the metal adhesive-layer comprises at least one material selected from a material group consisting of In, Sn, Al, [au], Pt, Zn, Ge, Ag, Ti, Pb, Pd, Cu, and alloys of these metals.**

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**46. (Currently Amended) The light-emitting device of claim 39 wherein the metal adhesive-layer is a metal reflecting adhesive-layer.**